

In Memoriam

Dr. Dwight Easterly
1940-2019



We are sad to say farewell to a great person, Dr. Dwight Jerry Easterly. He has been a good son, husband, father, and a friend and colleague to those in the aerospace and space communities. He will be sorely missed and will always be remembered for his continued dedication to the Canaveral Council of Technical Societies, both in its leadership and its organization of several Space Congress symposia, and for his work in the American Society of Mechanical Engineers.

Dr. Dwight Easterly contributed to the aerospace and space industries in the U.S. and Germany, working as an academic and a professional. He earned a bachelor's degree, two master's degrees, and a doctoral degree. Dr. Easterly had many diverse hobbies including scuba diving and hot air ballooning, but most of all he loved traveling and spending time with family and friends.

Along with his accomplishments, Dwight was passionate about the Cape Canaveral Technical Societies (CCTS)'s Space Congress. He was involved in decades worth of CCTS's Space Congress symposia, both during the Space Shuttle Era and in the space industry's transition to increased commercial spaceflight. He attended or organized every Space Congress in existence, even presiding as General Chair of the 43rd Space Congress.

Dr. Easterly is survived by his significant other, Karen Rossetter; four children, K.C. Easterly, Kristen Geeraerts, Jerry Easterly, and Sandy Harlow; and six grandchildren.

Dwight, we will miss you!



46TH SPACE CONGRESS®

JUNE 4-7, 2019 | CAPE CANAVERAL, FL



IN COLLABORATION WITH:



Welcome to the 46th Space Congress®

Evening Banquet "Apollo 50th Anniversary Celebration"

June 4, 2019



Astronaut Meet & Greet

June 5, 2019

The 46th Space Congress® gratefully acknowledges the special support of the following organizations:

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President, The e3 Company of Florida, LLC
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Dr. Dwight Easterly
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Chairman's Message



The Canaveral Council of Technical Societies (CCTS) and the 46th Space Congress Implementation Committee are pleased to announce the Program for the 46th Space Congress®. This year's event is to be held June 4-7, 2019, at the Radisson Resort at the Port in Cape Canaveral, FL. The committee, in collaboration with NASA Kennedy Space Center and Space Florida has put together an innovative program featuring the transformation of space exploration.

This year's theme, "Light the Fire" showcases the evolution of our industry as National Aeronautics and Space Administration (NASA), Air Force, aerospace companies, entrepreneurs, and universities continue to meet the challenges of the future. This conference would not be possible without the support of the aerospace community and our sponsors who are listed in the back of the program.

This three-day conference includes panel discussions with industry experts and prominent speakers including NASA Deputy Administrator James W. Morhard, 45th Space Wing Vice Commander Col. Thomas R. Ste. Marie, and Space Foundation Chief Operating Officer Shelli Brunswick. The panels will include executives from the aerospace and aviation industries, NASA, Air Force as well as other professionals from the fields of science, engineering, aeronautics, and more. We encourage conference participants to visit the Exhibition Hall for an expo of our conference sponsors. In addition, we are hosting an exhibit of the winners from local high school Science, Technology, Engineering, Arts and Math (STEAM) competitions in the Exhibition Hall as well as 5 Brevard County FIRST Robotic Teams to showcase their latest creations in the Martineque Room located in main hotel building.

We are very excited to host a special Apollo 50th Anniversary Astronaut Celebration banquet with veteran Apollo astronauts, Fred Haise, Apollo 13 lunar module pilot and Al Worden, Apollo 15 command module pilot. There are some fun and unique activities at this year's Space Congress including a photo opportunity with the actual Lunar Trainer Rover and a Mars Rover Concept Vehicle. We welcome your participation and are happy you are here to join us at the 46th Space Congress!

Therrin Protze

Therrin Protze
General Chair, 46th Space Congress



In Collaboration with:



General Information

Registration

Location: Convention Center Lobby

Tuesday, June 4, 2019

7:00am– 9:00 am

Wednesday, June 5, 2019

7:00am– 9:00am

Thursday, June 6, 2019

7:00am– 9:00am

Ticket Pricing:

You may purchase additional tickets or single event tickets anytime during regular conference registration hours.

Inclusive Conference Package

(includes lunches)

Regular- \$299

Military/ Senior-\$249

Student- \$229

Single Day Inclusive Package

(includes lunch)

Regular- \$104

Military/ Senior- \$89

Student– \$79

Evening Banquet

“Apollo 50th Anniversary

Astronaut Celebration”

\$89

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46th Space Congress® Executive Planning Committee

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CCTS Advisor	Dwight Easterly
CCTS Chair/ Space Congress Treasurer	Nimisha Vyas

Thank You

Suzy Cunningham
46th Space Congress
Government-Chair

Strategy & Integration Manager
NASA Kennedy Space Center,
Communications & Public Engagement



Thank you all for attending the 46th Space Congress, and we hope you enjoyed the conference. The 3-days were built around our theme, **"Light the Fire"...** of launch, exploration, innovation, imagination, and inspiration!

The Canaveral Council of Technical Societies (CCTS) and the 46th Space Congress Implementation Committee collaborated with NASA Kennedy Space Center and Space Florida to put together an exciting and diverse program where NASA Deputy Administrator, James W. Morhard gave a keynote that included NASA's Moon to Mars mission and collaboration efforts w/industry and international partners, Execs from NASA, 45th Space Wing, Space Florida, and the Economic Development Commission shared how they continue to evolve the Spaceport and grow the Spacecoast aerospace industry; Prominent NASA and industry panelists briefed the latest progress on our Commercial Crew, Commercial Cargo, and Exploration programs; Internationals from Australia, Europe, and Saudi Arabia discussed their technical and economic programs; and artists, photographers, and television execs shared how they inspire.

We had a fun, but informative Exhibit Hall for an expo of our conference sponsors that included a Lunar and a Mars Rover and a Moon and Mars map. We also hosted local high school Science, Technology, Engineering, Arts and Math (STEAM) competition winners, showcasing their projects, along with hosting 5 Brevard County FIRST Robotic Teams.

We also celebrated the 50th Anniversary of the Apollo missions with a banquet honoring Fred Haise, Apollo 13 lunar module pilot and Al Worden, Apollo 15 command module pilot; Mc'd by Former CNN Executive Producer and Network Correspondent, John Zarrella.

Thanks to all those in the aerospace community who made this conference possible and we hope to see you at the 47th Space Congress® next year!



Suzy Cunningham
46th Space Congress
Government-Chair

Canaveral Council of Technical Societies (CCTS) Member Societies

Association for the Advancement of Cost Engineering International (AACEi) North Florida Section
Armed Forces Communications-Electronics Association (AFCEA) Canaveral Chapter
American Institute of Aeronautics and Astronautics (AIAA) Cape Canaveral Section
American Institute of Chemical Engineers (AIChE) East Central Florida Section
American Society of Civil Engineers (ASCE) Cape Canaveral Branch
American Society of Heating Refrigeration and Air-Conditioning Engineers (ASHRAE) Space Coast Chapter
American Society of Mechanical Engineers (ASME) Canaveral Section
American Society of Safety Engineers (ASSE) Cape Canaveral Chapter
Human Factors and Ergonomics Society (HFES)
Institute of Electrical and Electronics Engineers (IEEE) Melbourne Section
Institute of Electrical and Electronics Engineers (IEEE) Canaveral Section
International Council on Systems Engineering (INCOSE) Space Coast Chapter
Missile, Space & Range Pioneers (MSRP)
NASA Alumni League (NAL) Florida Chapter
National Management Association (NMA) Florida Space Coast Council
National Space Club- Florida Committee (NSCFC)
Project Management Institute (PMI) Space Coast Florida Chapter
Society of American Military Engineers (SAME) Space Coast Post
Society for Technical Communication (STC) Orlando Central FL Chapter

Advisor Organizations

Embry-Riddle Aeronautical University (ERAU)
Space Coast Science Education Alliance (SCSEA)

In Appreciation

Space Congress® wants to express our appreciation to Tim Gagnon (aka "KSC Artist") for the design of this year's logo and the execution of the spectacular 5.5"x4.25" patch and Sponsor plaques.

Tim has a long and distinguished history of artistic contribution in support of Space Exploration, including paintings honoring the Astronauts and Team Members who make space flight reality, various historical montages, and numerous mission patches.

Please visit his website www.kscartist.com to read more about his work and activities, and to view his gallery of Fine Art, Emblem and Patch creations.



EVENT PROGRAM

Tuesday, June 4, 2019

- 7:00 am Registration**
Conference Center– Lobby
- 7:30 am CEU Session 1**
Bermuda Room
"Advanced Propulsion and Radiation Protection for Sustainable Space Exploration"
Dr. David Chesny
Chief Technology Officer, OrangeWave Innovative Science, LLC
- 7:30 am CEU Session 2**
Antigua Room
"Satellite Maintenance: An Opportunity to Minimize the Kessler Effect"
Bettina M. Mrusek, PhD
Assistant Professor, Aeronautics at Embry-Riddle Aeronautical University, Worldwide
- 9:00 am Opening Ceremony**
Conference Center– Main Hall
National Anthem:
Suzy Cunningham
46th Space Congress
Government Chair,
Strategy & Integration Manager
NASA Kennedy Space Center,
Communications & Public Engagement
Presentation of the Colors:
Patrick AFB Color Guard
Opening Remarks
Therrin Protze
Chair– 46th Space Congress®
Chief Operating Officer, DNC Parks & Resorts at KSC, Inc.
- 9:15 am Keynote Speaker:**
James W. Morhard
NASA Deputy Administrator
- 10:00 am Visit and Network with our Sponsors!**
Exhibit Hall
- 10:00 am Return to Flight Lessons Learned**
Conference Center– Main Hall
Moderator:
Robert "Bob" Cabana
Col USMC (Ret.), Astronaut (Fmr.),
Director, NASA's John F. Kennedy Space Center
Panelists:
William "Bill" Parsons, Jacobs Associate
Program Manager (TOSC)
Frank Culbertson- Former President, Northrop Grumman Space Systems; former Shuttle Astronaut CRS
Fred Haise, Apollo Astronaut (Ret.), President of Northrop Grumman Technical Services (Ret.)
N. Wayne Hale, Jr., Director of Human Spaceflight, Special Aerospace Services, LLP





Thursday, June 6, 2019

- 12:30 pm Luncheon– Transformational Space Legislation**
Conference Center– Main Hall
Moderator:
Dale Ketcham
Chief of Strategic Alliances,
Space Florida
- 2:00 pm Visit and Network with our Sponsors!**
Exhibit Hall
- 2:30 pm Launching Leaders**
Conference Center– Main Hall
Moderators:
Rebecca Baturin
NASA/KSC Project Engineer
Sarah McNulty
NASA/KSC Public Affairs Specialist
Panelists:
David Levine, Creative & Visual Strategist, JPL
Carol Craig, Founder & CEO, Craig Technologies
John Kraus, Spaceflight Photographer
Barbara Kennedy, NASA KSC Construction Manager
Tim Gagnon, KSC Artist
- 4:00 pm Closing Remarks**
Conference Center– Main Hall
Therrin Protze,
Chair– 46th Space Congress®
Chief Operating Officer, DNC Parks & Resorts at KSC, Inc.
- 4:30 pm Sr. Mgmt./ Early Career Emps "Speed Networking" Event and Reception (By Invitation Only)**
Moderators:
Suzy Cunningham
46th Space Congress® Government Chair,
Strategy & Integration Manager NASA Kennedy Space Center, Communications & Public Engagement
Bernadette Maisel, Space Foundation
Rebecca Baturin, NASA/KSC Project Engineer
Sarah McNulty, NASA/KSC Public Affairs Specialist



Thursday, June 6, 2019

- 7:00am Registration**
Conference Center– Lobby
- 7:30 am CEU Session 5**
Bermuda Room
“The Modernization of Ground Support Infrastructure at Kennedy Space Center – The Converter Compressor Facility Modifications and Pad 39B Liquid Hydrogen Tank Projects”
Priyanka Valleta, PE
Civil Engineer, BRPH
James Woodard, PE, LEED AP BD+C
Director of Process Piping, BRPH
- 7:30 am CEU Session 6**
Antigua Room
“Assessing sUAS Operator Flight Behavior & Potential Interference with Aviation Operations in Controlled Airspace Using Aeroscope”
Dr. John Robbins
Associate Professor and Program Coordinator, Bachelor of Science in Unmanned Aircraft Systems, Embry-Riddle Aeronautical University
- 9:00 am Space Coast Becoming Next Silicon Valley**
Conference Center – Main Hall
Moderator:
Andy Aldrin
Director, Aldrin Space Institute

Panelists:
Carissa Christensen-Bryce– *Investment Overview*
Frank Dibello– *President and CEO, Space Florida*
Lynda Weatherman– *President & CEO, Economic Development Commission of Florida’s Space Coast*
Robert L. Duffy– *Sr. Vice President of Human Resources and Administration, Harris Corporation*
- 10:30 am Visit and Network with our Sponsors!**
Exhibit Hall
- 11:00am Inspiring Next Gen**
Conference Center – Main Hall
Moderator:
Shelli Brunswick
Chief Operating Officer, Space Foundation

Panelists:
Therrin Protze– *Chair– 46th Space Congress® Chief Operating Officer, DNC Parks & Resorts at KSC, Inc.*
Phil Smith– *Artist and Program Manager/ Sr. Analyst, Bryce Space and Technology*
Michelle Lucas– *Founder & President, Higher Orbits Foundation*
Bethanne Hull– *NASA KSC Outreach*
Shiyana Valentine– *Education & Community Engagement Manager (WUCF)*

Tuesday, June 4, 2019

- 11:30 am Luncheon**
Conference Center– Main Hall
Speaker:
Col. Thomas R. Ste. Marie
*Vice Commander
45th Space Wing*

- 1:30 pm Commercial ISS Programs**
Conference Center– Main Hall
Moderators:
Lisa Colloredo
*Deputy Program Manager
NASA Kennedy Space Center
Commercial Crew Program*

Panelists:
John P. Mulholland– *Vice President and Program Manager-Commercial Crew Program, Boeing*
Benji Reed– *Director of Commercial Crew Mission Management, SpaceX*
John Curry– *Senior Director and Program Manager, Space Exploration Systems Sierra Nevada Corporation’s Space Systems*
Robert T. Richards– *Vice President, Strategy and Business Development Space Systems Division, Northrop Grumman*
TBD– *ISS Projects*
- 3:30 pm Multi-Use Spaceport Programs**
Conference Center– Main Hall
Moderator:
Thomas O. Engler
Director, Center Planning and Development Directorate (KSC)

Panelists:
Col. Thomas R. Ste. Marie– *Vice Commander, 45th Space Wing*
Mark Bontrager– *Vice President, Spaceport Operations, Space Florida*
Kent Rominger– *Vice President, Strategic Programs, Northrop Grumman*
Ariane Cornell– *Director of Astronaut and Orbital Sales, Blue Origin*
- 4:45 pm Closing Remarks**
Therrin Protze,
*Chair– 46th Space Congress®
Chief Operating Officer, DNC Parks & Resorts at KSC, Inc.*
- 5:30 pm Reception**
Exhibit Hall
Cash Bar
- 7:00 pm Evening Banquet
“Apollo 50th Anniversary Astronaut Celebration”**
Conference Center– Main Hall
Master of Ceremonies:
John Zarella,
Former CNN Executive Producer and Network Correspondent, Owner JZ Media

Honored Guests:
Al Worden, *Apollo Astronaut (Ret.), US Air Force and BF Goodrich (Ret.)*
Fred Haise, *Apollo Astronaut (Ret.), President of Northrop Grumman Technical Services (Ret.)*

Wednesday, June 5, 2019

7:00am Registration
Conference Center– Lobby

7:30 am CEU Session 3
Bermuda Room **"Celestial Meteorology: Weather Phenomena in our Solar System"**
Dr. Anthony El-Khouri

7:30 am CEU Session 4
Antigua Room **"Space Robotics for On-Orbit Servicing and Space Debris Removal"**
Dr. Markus Wilde
Director, FIT ORION Spacecraft Robotics Lab

9:00 am International Programs
Conference Center– Main Hall
Moderator:
Kim Ellis
Director, Earth Space Technology Pty Ltd



Panelists:
Dr. Sandra Brogl– *Spaceopal GmbH, Galileo*
Dr. Ahmed Alhelal– *Researcher, Tuskegee University*
Col. David Brenner- (Ret.) *Army, BCR-Australia Digital Assets*
TBD– *Global Exploration Roadmap*

10:00am Visit and Network with our Sponsors!
Exhibit Hall

11:00am NASA Exploration
Conference Center– Main Hall
Moderator:
Jennifer Kunz
NASA/Kennedy Space Center, Safety and Mission Assurance Director



Panelists:
Bill Hill– *Deputy Associate Administrator for Exploration Systems Development, NASA Human Exploration and Operations Mission Directorate*
Mark Weise– *Gateway Program Logistics Element Manager*
Steve Clarke– *Lunar Platform & Science*
Fuk Li– *NASA JPL*



Please stop by the Exhibition Hall and visit our STEAM Science Fair exhibits. Recent winners will be displaying their award-winning entries and would welcome your visit.

The 46th Space Congress will be recognizing these outstanding students for their accomplishments on Wednesday night with a special presentation by our esteemed astronaut representatives in the Exhibition Hall.

We also proudly welcome 5 Brevard County FIRST Robotic Teams to showcase their latest creations. Congratulations to our local area students!!

Wednesday, June 5, 2019

12:30 pm Luncheon– "Innovation and Perspective"
Conference Center– Main Hall

Speaker:
Johannes Torpe
Founder, Johannes Torpe Studios



2:30 pm Innovation Initiatives
Conference Center– Main Hall
Moderator:
Michelle Lucas
Founder & President, Higher Orbits Foundation



Panelists:
TBD– *Institute for Human & Machine Cognition (IHMC)*
Shelli Brunswick- *Chief Operating Officer, Space Foundation*
Ana Rivera– *KSC Launch Services Program*
Mark Rucci– *Rise of the Rest (ROTR) (T)*
Tom Campbell, *General Manager, Space Antennas and Structure, Harris Corporation (T)*

4:30 pm Contingency Planning and Recovery
Conference Center– Main Hall

Moderator:
Bill Tate
Former Director of Security Northrop Grumman Military Aircraft Division



Panelists:
Sheriff Wayne Ivey– *Brevard County Sherriff*
Dan Casey– *Program Security Manager, Northrop Grumman Corporation*
Wayne Kee– *NASA/Kennedy Space Center Emergency Management Officer*

6:00 pm Closing Remarks
Suzy Cunningham,
Government Chair– 46th Space Congress® Strategy and Integration Manager, NASA

6:05 pm Astronaut Meet & Greet
Exhibit Hall

Robert D. "Bob" Cabana
STS-41, STS-53, STS-65, STS-88
Winston Scott,
STS-72, STS-87
Samuel T. Durrance,
STS-35, STS-67
Frank Culbertson
STS-38, STS-51, STS-105, STS-108
Andy Allen
STS-46, STS-62, STS-75
Mike Foreman
STS-129, STS-123
Mark C. Lee
STS-47, STS-82, STS-30, STS-64